Ecological Process	Revised Implementation Objective Statements
Streamflow	Restore basic features of the hydrograph in order to reactivate and maintain ecological processes and functions which create and maintain habitat required to sustain healthy fish, wildlife, and plant populations.
Natural Hydrologic Regime	Establish and maintain an hydraulic regime in the Bay-Delta in order to provide for migratory cues, habitat creation and maintenance, and facilitate species distribution and transport.
Natural Sediment Supply	Maintain an adequate sediment supply to riverine and estuarine systems in order to restore or reactivate stream channel meander, point bar formation, provide sediments to rebuild wetlands and shallow water habitats and provide for nutrient transport.
Geo-morphology	Modify channel and basin configurations in order to improve floodplain function along rivers and streams in the Sacramento-San Joaquin basin.
Stream Channel	Maintain, improve, or restore natural stream meander processes in order to allow the natural recruitment of sediments, creation of habitats, and promote natural riparian succession processes.
Gravel Recruitment	Maintain, improve, restore, or supplement gravel recruitment processes in riverine systems of the Sacramento-San Joaquin basin in order to provide spawning substrate for anadromous fish, promote riparian succession, maintain stream channel gradient, and dissipate stream energy to prevent deep scour.
Gravel Cleansing and Transport	Maintain, improve, or restore the gravel cleansing and transport processes in riverine systems of the Sacramento-San Joaquin basin in order to provide high quality, biologically productive gravel needed for habitat by fish and lower trophic organisms.
Water Temperature	Maintain, improve, and restore water temperature regimes in order to meet life history needs of aquatic organisms.
Current Velocities	Maintain or create velocities sufficient to oxygenate eggs in redds (nests), transport young fish, provide migratory cues, suspend eggs, and transport sediments and allochthonous materials.

Ecological Process	Revised Implementation Objective Statements
Floodplain	Maintain, improve, or restore seasonal patterns of floodwater and sediment detention and retention in order to provide for sediment deposition to replenish soils, maintain seasonal wetland habitat, support prolonged outflow regimes, protect stream channel morphology, dissipate flow velocity to reduce scour, and introduce nutrients into system.
Vegetation succession, overbank flooding, and floodplain inundation	Maintain, improve, or restore seasonal overbank flooding and floodplain inundation in areas protected against flooding by levees in order to allow deposition of suspended sediments needed to support a desirable vegetation succession process, nutrient cycling, seasonal habitat, temperature moderation, (Verona to Collinsville and areas in the SJ and in the Delta)
Watershed	Promote watershed management practices and manage land use in order to maintain high quality habitat conditions for wildlife, aquatic and plant communities; protect riparian vegetation; maintain shaded riverine aquatic habitat; prevent bank erosion, and attenuate runoff.
Nutrient inputs and availability	Maintain, improve, or restore the amounts of basic nutrients available to the foodweb of estuarine and riverine systems in order to provide a desirable level of foodweb productivity. (Insure that nutrients are not limiting foodweb productivity.)
Aquatic Primary Production	Maintain or increase primary aquatic production in the Sacramento-San Joaquin basin to order to insure a foodweb sufficient to support healthy populations of higher trophic level organisms.

Ecological Process	Revised Implementation Objective Statements
Aquatic Secondary Production	Maintain, improve, or restore secondary aquatic production in the Sacramento-San Joaquin basin in order to maintain foodweb abundance and diversity at levels sufficient to support species dependent on the Bay-Delta estuary.
	Stressors
Levees, bridges, and bank protection	Reestablish or reactivate geomorphological processes in artificially confined channel reaches in order to maintain hydrologic connectivity with natural floodplain.
	Reestablish floodplain riparian vegetation along artificially confined channel reaches in order to improve connectivity of riparian habitats, provide shaded riverine aquatic habitat, and a source of woody debris
Dredging	Reduce the loss and degradation of habitat from dredging activities in commercial and recreational waterways in order to protect and maintain important habitats.
Land Use	Establish internal buffer zones around important habitat areas such as nesting trees and spawning areas in order to protect these habitats from incompatible land uses
	Protect special status wildlife nesting sites in order to increase nesting success and prevent nest site abandonment.
	Promote rangeland management practices and livestock stocking levels in order to maintain high quality habitat conditions for wildlife, aquatic, and plant communities, to protect special status plants, to protect riparian vegetation, to maintain shaded riverine aquatic habitat, and prevent bank erosion
	Reduce adverse effects of water conveyance structure maintenance in order to reduce loss of amphibians, reptiles and other aquatic species.
Wildfire	Reduce fuel loads in upper watersheds in order to protect special status plant populations, prevent catastrophic loss of terrestrial and aquatic habitats as a result of wildfires, and protect or enhance water supplies.

Exotic Species (Plants)	Reduce extent of harmful invasive exotic plants in order to reduce competition with native riparian vegetation, native saline and fresh emergent marsh vegetation, and keep Delta waterways open.
Exotic Species (Fish and Wildlife)	Reduce populations of harmful introduced animals in order to protect native and special status species and contribute to their recovery.
Exotic Species (Invertebrates)	Control and reduce introductions of exotic aquatic invertebrates into the Bay-Delta watershed from ship ballast water and at border crossings in order to protect native and other important species from additional sources of competition and predation.
Dams, reservoirs, and other man-made structures	Increase the connection of upstream spawning and rearing habitats with the mainstem rivers in the Sacramento-San Joaquin basin in order to increase success of adult spawners and survival of juvenile downstream migrants.
Water management and diversions	Reduce entrainment of juvenile fish into water diversions by screening or consolidating diversions or by altering diversion timing in order to increase survival and cohort replacement levels.
	Reduce the loss of adult and juvenile fish due to becoming lost, blocked or stranded in order to increase the number and success of adult spawners and survival of juvenile fish.
	Manage or provide flows in order to improve habitat conditions for all life stages of important fish species.
	Reduce effects on fish and their habitat from extreme daily or seasonal flow fluctuations below mainstem and tributary reservoirs in order to increase survival of all life stages.
Gravel mining	Reduce the adverse effects of gravel mining in order to improve and restore the natural recruitment of gravel and other sediments to the stream channels.
Contaminants	Reduce concentrations and loadings of contaminants in the aquatic environment and the subsequent bioaccumulation by aquatic species in order to increase survival and eliminate public health concerns.
Human disturbance	Reduce human activities that adversely affect wildlife behavior or cause habitat destruction in order to increase spawning success and contribute to restoration of important species.

Harvest of fish and wildlife	Reduce the level or incidence of illegal harvest in order to protect and increase the survival and reproductive success of adult and juvenile fish and wildlife populations.
Predation and competition	Reduce the loss of juvenile anadromous and resident fish and other aquatic organisms to unnatural levels of predation in order to increase survival and contribute to the restoration of important species.
Artificial production of fish	Reduce the potentially adverse effects of stocking artificially produced fish throughout Central Valley rivers and streams in order to increase the survival of naturally produced fish and contribute to long-term restoration goals.
Tidal perennial aquatic	Increase the area of tidal shallow-water and mudflat habitat in order to provide foraging and resting habitat for waterbirds and rearing, foraging, and escape cover for fish and associated wildlife.
Nontidal perennial aquatic	Increase the area of deep, open-water habitats in the Delta in order to provide resting habitat for waterbirds and foraging habitat for diving ducks and other waterbirds that feed in deep water, and habitat for associated fish species. Increase the area of shallow (>3 feet) open-water habitat in the Delta to order to provide resting, foraging, and brood habitat for waterbirds and habitat for fish and aquatic plants and animals. Restore shoal habitats areas in order to provide foraging areas for adult and juvenile fish and escape cover for juvenile fish.
Dead-end sloughs	Protect and improve existing dead-end slough habitat and restore historical natural dead-end sloughs in the Bay-Delta in order to provide high quality habitat to replace lost slough habitats for fish and other aquatic or semi-aquatic species and assist in the recovery of other species and wildlife.
Open-end sloughs	Protect and improve existing open-end slough habitat and restore historical natural open-end sloughs in the Bay-Delta in order to provide high quality habitat to replace lost slough habitats for fish and other aquatic or semi-aquatic species and assist in the recovery of other species and wildlife.
Aquatic seasonal	Increase the area of seasonal wetlands and associated mudflats and increase the values associated with existing seasonal wetlands in order to provide high quality foraging and resting habitat for wintering waterfowl and migrant and wintering shorebirds. Increase the area and improve degraded of vernal pool habitats in order to provide suitable habitat needed for recovery for each listed fairy shrimp species dependent on the Delta.

Shaded riverine aquatic	Increase the length of stream channels bordered by riparian vegetation and reduce fragmentation of riparian corridors in order to provide cover and other essential habitat requirements for anadromous and native resident fish species and wildlife. Improve degraded shaded riverine aquatic habitat in order to provide cover and other essential habitat requirements for anadromous and native resident fish species and wildlife.
Saline emergent wetland	Increase the area, protect existing and improve degraded saline emergent wetlands in order to expand the range of special-status and listed plant and animal species to expand their population and range and to assist in their eventual recovery.
Fresh emergent wetland	Increase the area, protect existing, and improve degraded fresh emergent wetlands in order to provide high quality habitat for special status plants and animals, waterfowl, shorebirds, and other associated wildlife.

Riparian scrub, woodland and forest	Restore riparian scrub, woodland, and forest habitat along largely unvegetated riprapped banks of Delta island levees, along the Sacramento River, San Joaquin River, and along major tributaries of the Sacramento and San Joaquin River in order to create corridors of riparian vegetation to provide shaded riverine aquatic cover for anadromous and other fish species, and to create high quality habitat for associated special-status plant and animal species, and other associated wildlife. Restore riparian habitat on the water side of levees along the Sacramento River and San Joaquin River in order to create habitat corridors to provide shaded riverine aquatic cover for anadromous and other fish species, and to create high quality habitat for associated special status plant and animal species, and other associated wildlife. Restore 100 miles of riparian habitat on the land side of levees along the Sacramento River and San Joaquin River in the Delta at least ___ miles in length in order to create high quality habitat for associated special status plant and animal species, and other associated wildlife. Restore the historic floodplain area of the Sacramento River, San Joaquin River, and along major tributaries of the Sacramento and San Joaquin rivers in a manner consistent with flood control requirements in order to create conditions suitable for the natural reestablishment of riparian vegetation and to create high quality habitat for associated special status plant and animal species, and other associated wildlife. Improve low-to-moderate quality riparian habitat in the Delta, in the Sacramento River floodplain, in the San Joaquin River floodplain, and in the floodplains of major tributaries of the Sacramento and San Joaquin rivers in order to provide high quality habitat for anadromous and native fish species, associated special status plant and animal species, and other associated wildlife.
Coastal scrub	Preserve existing Antioch inland dune habitat areas in order to maintain special status plant and animal, and other associated wildlife populations in all habitat areas. Improve low-to-moderate quality Antioch inland dune habitat in the Delta in order to provide high quality habitat for special status plant and animal, and other associated wildlife populations.
Channel islands	Protect and improve existing channel islands and restore historic natural channel islands in the Delta in order to protect and improve all existing remnant channel islands

Valley oak woodland	Restore valley oak woodland within its historic range in the Delta, in the historic Sacramento River floodplain upstream of the Delta, and in the historic San Joaquin River floodplain in order to provide high quality habitat for associated special status plants and animals and other associated wildlife in the Delta. Improve low-to-moderate quality valley oak woodlands in the Delta, Sacramento River floodplain, and the San Joaquin River floodplain in order to provide high quality habitat for associated special status plant and animal species, and other associated wildlife.
Perennial grassland	Preserve and restore perennial grassland habitat in conjunction with restoration of floodplain riparian and valley oak habitats in order to provide high quality habitat conditions for associated special status plant species and wildlife.
Agricultural uplands and wetlands	Co-manage agricultural upland and wetland habitat in order to provide wildlife forage and resting area habitat values for wintering and migrating waterfowl and shorebirds and other associated wildlife in the Delta.
Chinook salmon (Central Valley wide)	Restore all ecologically significant units of chinook salmon to levels of higher abundance in order to facilitate recovery or preclude a need for future ESA listing and provide for sustainable recreational and commercial fisheries
Steelhead trout	Restore the Central Valley ecologically significant unit of steelhead trout to levels of higher abundance in order to preclude a need for ESA listing and provide for sustainable recreational fisheries
Native non-game fish (Delta smelt Longfin smelt)	Restore native non-game fishes to levels of higher abundance in order to preclude a need for ESA listing and provide for sustainable non-consumptive, educational, and scientific uses
Native game fish	Restore native game fishes to levels of higher abundance in order to preclude a need for ESA listing and provide for sustainable recreational fisheries and other non-consumptive, educational, or scientific uses
Green sturgeon	Maintain a median population of green sturgeon in order to provide for a sustainable population.
Starry flounder	Restore starry flounder in order to provide for a sustainable population.
White sturgeon	Restore the population of white sturgeon population in order to provide for a sustainable population and recreational fishery.

Sacramento splittail	Restore other native non-game fishes to levels of higher abundance in order to preclude a need for ESA listing and provide for sustainable recreational (and, possibly, commercial) fisheries
Striped bass	Restore other sport fishes to levels of higher abundance in order to provide for sustainable recreational fisheries and consistent with implementation objectives related to threatened, endangered, or special concern species
Largemouth bass	Maintain introduced fishes at levels of higher abundance in order to provide for sustainable recreational fisheries
White catfish	Maintain introduced fishes at levels of higher abundance in order to provide for sustainable recreational fisheries
Threadfin shad	Maintain introduced fishes at levels of higher abundance in order to provide for sustainable recreational fisheries
American shad	Maintain introduced fishes at levels of higher abundance in order to provide for sustainable recreational fisheries
Other representative species	Maintain other native fishes at levels of higher abundance in order to provide for sustainable recreational fisheries
Other non-naive resident fishes	Maintain some other introduced fishes at levels of higher abundance in order to provide for sustainable recreational fisheries